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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,934	10/17/2001	Hiroshi Akahori	110900	4012
25944	7590	07/08/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			MAI, TAN V	
			ART UNIT	PAPER NUMBER
			2124	

DATE MAILED: 07/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/977,934

Applicant(s)

AKAHORI, HIROSHI

Examiner

Tan V Mai

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. The drawings are objected to because Fig. 3 should be labeled "PRIOR ART". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. Claims 1-5 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per independent claim 1, the phrase "adding member for adding multiplied results from **a plurality of multiplication members**" seems to be misdescriptive because the claim only recites "**a** first selection member", "**a** second selection member" and "**a** multiplication member". Clarification is requested. Similarly noted independent claim 4 and dependent claim 7.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-4 and 6-8 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kim.

As per independent claim 1, Kim teaches, e.g., see Figs. 3 and 7, "**a** first selection member" **(202)**, "**a** second selection member" **(203)** [see Fig. 7 and col. 3,

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lines 46-61], "a multiplication member" (**204A-204D**) and "an adding member" (**207**) as claimed.

As per dependent claim 3, Kim teaches a FIR filter.

Due to the similarity of claims 4 and 6-8 to claims 1 and 3, they are rejected under a similar rationale.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lish.

As per independent claim 1, Lish discloses, e.g., see Figs. 4A-4B, the invention substantially as claimed, including: "a first selection member" **SWITCHING MATRIX**, a coefficient member & "a multiplication member" **C1-C4** & and "an adding member". It is noted that Lish does not specifically detail the claimed "second selection member" feature; however, the feature is explicitly disclosed because the FIR filter has a plurality of M taps and N (N less than M) multipliers. Therefore, the FIR filter should have the equivalent "second selection member" feature for selecting the desired coefficients for corresponding taps. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to

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Lish's teachings because the reference is a FIR filter having a plurality of M taps and N (N less than M) multipliers as claimed.

As per dependent claim 3, Lish discloses a FIR filter.

Due to the similarity of claims 4 and 6-8 to claims 1 and 3, they are rejected under a similar rationale.

7. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Kim or Lish in view of Claasen et al.

Kim and Lish have been discussed in paragraphs 4 & 6, respectively.

As per dependent claim 2, the claim adds the "interpolation" feature, i.e, the "data signal in which a "0" is inserted". The feature is old and well known in the filter art. For example, Claasen et al disclose interpolating filters having inserted "0". It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Claasen et al in either Kim or Lish, thereby making the claimed invention, because the proposed device is a interpolation FIR filter 7having a plurality of M taps and N (N less than M) multipliers as claimed.

Due to the similarity of claim 5 to claim 2, it is rejected under a similar rationale.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (703) 305-9761.

The examiner can normally be reached on Tue-Fri from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (703) 305-9662. The fax phone numbers for the organization where this application or proceeding is assigned are:

After-final (703) 746-7238

Official (703) 746-7239

Non-Official/Draft (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



TAN V. MAI  
PRIMARY EXAMINER